

**TAB D**



401 9th Street, NW, Suite 400  
Washington, DC 20004

September 22, 2004

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
TW-A325  
445 12<sup>th</sup> St., SW  
Washington, D.C. 20554

Re: Ex Parte Presentation,  
CC Docket No. 99-68

Dear Ms. Dortch:

Today, Dick Juhnke and I met with Jessica Rosenworcel to discuss intercarrier compensation for ISP-bound traffic. Consistent with its filings in this proceeding, Sprint urged that the growth and new market restrictions be lifted, and that the mirroring requirement be maintained, and discussed ways of preventing an increase in total ISP outpayments. Sprint also cautioned that whatever legal justification is used in the *ISP Remand* proceeding should be carefully crafted to preserve the Commission's ability to later adopt a unified intercarrier compensation regime for all telecommunications traffic. Finally, Sprint referenced industry reports which indicated that the number of dial-up ISP users has been declining over the past three years, and is forecasted to continue to decline in the future (these reports are attached).

I request that this letter, which is being filed electronically, be placed in the file for the above-captioned proceeding.

Please contact me at (202) 585-1915 with any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Norina Moy".

Norina Moy  
Director, Federal Regulatory  
Policy and Coordination

c: J. Rosenworcel

# TR's ONLINE CENSUS

The Independent  
Quarterly Benchmark  
of Online Services

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## 7 Percent Growth in 2004 Puts Year-End Tally at 81 Million Online Users Cable Remains Dominant as Broadband Share Hits 31 Percent

**M**ore than 5.6 million customers joined the online world in 2003, with 1.3 million customers (a 1.6 percent boost) signing onto the services of U.S.-based residential Internet service providers during the final three months of the year (see Figure 1). The 81,084,021 customers at year-end represented a 7 percent climb over the end of 2002, a year that had seen the addition of 5.75 million new users, an 8.3 percent increase for that full year.

The shift toward broadband services accelerated during 2003, with high-speed access via cable modems, digital subscriber line, and satellite services now accounting for 31.1 percent of online customers. That compares to a 23.2 percent share in 2002 and a 15.5 percent share in 2001 (see Figure 2). Nonetheless, dial-up connections remain the dominant access format — still accounting for nearly 69 percent of the customer base at the end of 2003.

Cable modem service still accounts for the sizeable majority of high-speed access; it is holding steady at just over 58 percent of the total broadband audience for the second consecutive year. The DSL share, which includes a sizeable roster of

small office customers, also continues to hover at the same level — about 41 percent of the overall broadband market for two years running.

At a recent broadband conference in Washington, several analysts wryly pointed out that the much-touted parity

By Gary H. Arlen  
Editor

**Figure 1: Total Online Census by Category**  
Customer Base as of December 31, 2003

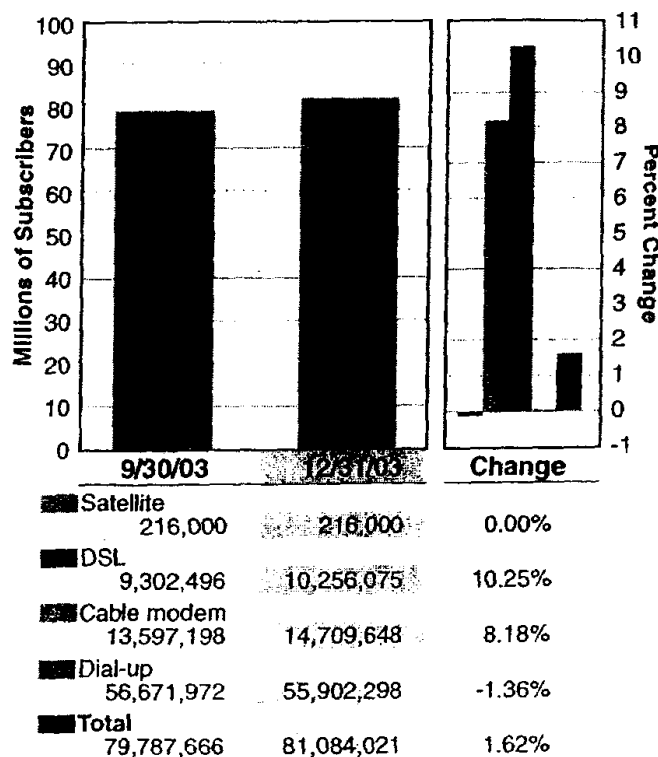
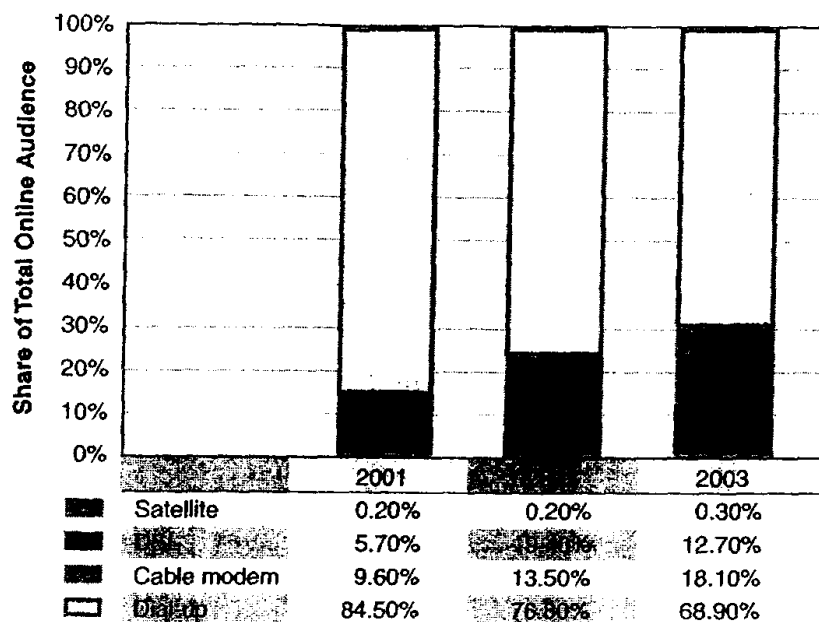


Figure 2. Growth of Broadband Share



between cable and DSL penetration has been predicted for more than two years but continues to elude the telephone company providers.

The year-end data also underscore the shifting position of long-time front-runners, such as America Online, which continues to struggle for a position in the broadband sector.

Among the trends that emerged from *TR's* year-end survey of major residential Internet service providers, several factors bubbled to the top:

- Price competition has become the major factor in customer decisions to stay with or jump to another ISP.
- Added-value content packagers — or aggregators — are finding some success in forming alliances with ISPs, which are seeking differentiation.
- Retail relationships are becoming more important in selling broadband service to end users.

### Diminishing Dial-up

The strong increase in broadband usage is predictably balanced by a continuing erosion of the dial-up audience, although companies are losing share at strikingly different rates. For example, America Online lost just under 1 percent of its dial-up customer base during the final quarter of 2003; compared to the year-end 2002 figures, AOL lost about 3 percent, or about 900,000 dial-up customers.

Meanwhile AOL-owned CompuServe lost nearly 2.8 percent of its sparse audience in the final quarter alone. Microsoft Network, which is losing interest in its dial-up service, saw nearly 7 percent of its dial-up customers drop off during the final months of the year, bringing MSN Internet Access down to 8 million customers. Even United Online, which had heavily promoted its "higher-speed" enhanced dial-up offerings,

## TR's ONLINE CENSUS

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faced a 2 percent decline in dial-up customers for its NetZero, Juno, and BlueLight ISP services.

Among the largest ISPs, only EarthLink maintained its dial-up audience with a scant 0.37 percent growth (14,000 customers) during the fourth quarter. EarthLink ended 2003 with about 269,000 fewer dial-up users (-6.7 percent) than it started the year — reflecting its dial-up drop-off earlier in the year.

Only PeoplePC (owned by EarthLink) showed a sizeable dial-up audience increase during the fourth quarter, jumping by 129,000 customers (43.7 percent). Most of those customers are believed to be online newcomers just being exposed to their first computers and online connections. Some analysts sneer at this audience as low-value “latecomers” who will not attract advertisers or pay for value-added services.

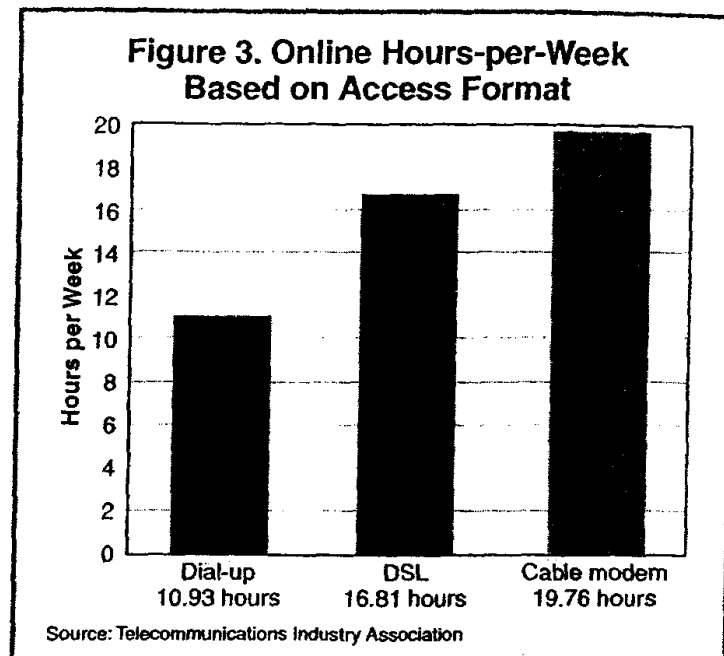
Overall, the dial-up share declined 1.36 percent during the final quarter and 3.3 percent (about 1.9 million users) during the entire year.

A recent study by the Telecommunications Industry Association (conducted by In-Stat/MDR) underscores the significance of the broadband transition — namely, the far greater amount of time that high-speed customers spend online each week. According to the TIA research, cable modem users devote nearly twice as many hours per week to their online activities as dial-up users (see Figure 3)

### Finding Ways to Sustain Dial-Up

Amidst the flagging interest in dial-up services, a few new promotional efforts are underway.

AOL officially launched its previously announced “Netscape” access



service at \$9.95 per month. It includes unlimited dial-up access, an e-mail account, and a limited array of browser tie-ins. The new Netscape service debuted too late for user tallies to be included in the 2003 year-end data.

United Online unveiled new versions of NetZero HiSpeed and Juno Speedband that include a tiered e-mail storage service. Current Juno and NetZero customers can now subscribe to MegaMail, featuring 25 Mb of e-mail storage and advanced mail management features, for \$9.95 per month. New subscribers to NetZero HiSpeed and Juno Speedband will automatically receive the MegaMail service. Users who wish to purchase additional space will have the option of MegaMail 100, which offers 100 Mb of storage for the introductory price of \$24.95 per month.

Pac-West Telecom Inc., a California competitive local exchange carrier, is packaging its “Dial Broadband” service, providing its own customers and other ISPs an enhanced dial-up service

## Dial-Up Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
America Online (Time Warner Inc.)	\$23.90, \$14.95 for BYOA	31,000,000	30,700,000	-0.97%
AOL World Online (AOL Inc.)	\$14.95	2,000,000	2,000,000	0.00%
BellSouth Internet Service (BellSouth Corp.)	\$19.95, \$9.95 for BYOA	678,995*	660,051*	-2.79%
Comcast (Comcast Inc.)	\$19.95, \$9.95 for BYOA	1,000,000	2,418,200	+2.79%
EarthLink (EarthLink Inc.)	\$21.95	3,752,000	3,766,000	0.37%
Excite (Excite Inc.)	\$19.95, \$9.95 for BYOA	1,500,000	2,000,000	+3.33%
PeoplePC (EarthLink Inc.)	\$9.95	295,000	424,000	43.73%
SPN Internet Dial (SPN Communications Inc.)	\$15.95	1,430,269*	1,430,269	0.00%
RCN (RCN)	\$13.95, \$11.95 prepaid	208,406	208,523*	0.06%
NetScape, Jap. and Bluewin (United Online Inc.)	\$9.95	5,200,000	5,300,000	1.92%
Verizon Online (Verizon Communications Inc.)		507,302	497,155	-2.00%
<b>TOTALS</b>		<b>56,671,972</b>	<b>55,902,298</b>	<b>-1.36%</b>

\*Estimate

that operates at two to three times the top 56 Kbps dial-up speeds. Dial Broadband is immediately available throughout California.

Microsoft said that income from subscribers for its MSN Internet Access dial-up service declined from a year earlier and cautioned that "subscription revenue may decline for the remainder of the fiscal year as the overall MSN subscriber base is expected to continue to decline." The MSN Internet division suffered an operating loss of \$79 million in the final quarter of 2003, after posting its first-ever profit in the previous

quarter. Revenues at the MSN Internet division were \$546 million in the quarter ended Dec. 31, compared with \$459 million a year earlier. Nonetheless, the company is shifting its focus toward advertising and broadband services.

### Feature Competition

As the broadband migration continues, MSN's actions are typical of the diversification into tiered pricing and services that is likely to emerge from other ISPs. MSN has begun to focus on content packaging for its high-speed allies, such as Verizon Communica-

## DSL Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
America Online (America Online Inc.)	\$39.95	786,760*	881,171*	12.00%
AT&T WorldNet (AT&T Corp.)	\$9.95 per month for first three months			
BellSouth Internet Service (BellSouth Corp.)	\$29.95	1,311,000	1,460,000	11.37%
EarthLink (EarthLink Inc.)	\$29.95	983,000	1,061,000	7.83%
SBC/Yahoo! DSL (SBC)	\$26.95 per month for first year	3,100,000	3,477,000	12.16%
Comcast Communications Inc.		672,000	682,000	1.49%
RCN Corporation (RCN)	\$29.95 (\$49.95 without bundle)	187,431	190,654*	1.72%
Sparqate (Sparqate Industries LLC)		90,000	—	—
Cincinnati Bell DSL (Broadwing Communications)		150,615	162,664	8.00%
Comcast DSL (Comcast Communications Group Inc.)	\$39.95	491,000	517,000	5.30%
Verizon High Speed Online (Verizon Communications Inc.)	\$29.95 per month for 12 months	1,666,586	1,869,586	12.18%
<b>TOTALS</b>		<b>9,302,496</b>	<b>10,256,075</b>	<b>10.25%</b>

\*Estimate

tions, Inc., and for other broadband users. Microsoft in January unveiled two upgrade services:

- MSN Premium costs \$9.95 per month, or \$99.95 per year, and includes "spam" filtering, parental controls, a personal finance program, the MSN Encarta encyclopedia, advanced photo-sharing, anti-spyware software, and multiple e-mail accounts.
- MSN Plus, costs \$5.95 per month or \$49.95 per year, and comes without the encyclopedia, parental controls and other family-oriented features.

Also in the content add-on category aimed at broadband customers, Yahoo! has introduced Yahoo! Plus service for \$5.95 a month; it offers videos, games, and e-mail storage. And AOL continues to promote its \$14.95 per month package of services to customers with broadband connections who can "bring your own access" (BYOA).

Among other broadband features, America Online is underwriting 99-cent movies — streaming video-on-demand access to recent feature films packaged by MovieLink, which is owned by five Hollywood studios. (The

## Cable Modem Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
Comcast High Speed Internet (Comcast Corporation)	\$39.95	4,861,000	5,283,900	8.70%
Cox High Speed Internet (Cox Communications)	\$39.95	1,800,000	1,934,400	8.02%
Charter Pipeline (Charter Communications)	\$45.95	1,574,800	1,662,900	5.59%
Optimum Online (Cablevision Systems Inc.)	\$39.95	1,000,000	1,056,000	5.59%
PowerLink (Adelphia Communications Corp.)	\$44.95	839,622*	982,611	17.03%
FrontRunner (Time Warner)	\$39.95	2,090,000	2,140,000	2.40%
MediaCom (MediaCom Communications Corp.)		261,000	280,000	7.28%
Knology.Net (Knology Inc.)	\$34.95	62,276	66,835	7.32%
Insight Broadband (Insight Midwest, L.P.)	\$34.95	208,500	230,100	10.36%
<b>TOTALS</b>		<b>13,597,198</b>	<b>14,709,648</b>	<b>8.18%</b>

\*Estimate.

same movies are available directly from MovieLink's Website, typically for about \$3 or \$4 per play.)

In addition, several newcomers are aggregating content for the broadband market. For example, Synacor Inc., a Buffalo, N.Y., firm, is expected to unveil deals soon with DSL providers to add its "Portelus" package of online subscription services for varying monthly fees. Synacor is pushing its integrated billing and value-added appeal that allows DSL providers to beef up their offers to compete with cable services.

### Retention in a Competitive Arena

A confusing TV ad campaign pitting Comcast versus Verizon under-

scores the growing effort to lure customers to competing high-speed options. Comcast has virtually duplicated the format of a Verizon commercial (a man's legs are pacing around a living room, as he apparently talks on the phone to the new-customer agents at each provider). Of course, each commercial ends differently — as he is told about the comparative capabilities and prices from each supplier.

The commercial reinforces a recent finding from BellSouth Corp. research, which indicated that "price" (cost of service) is the main reason for churn among DSL customers. BellSouth concluded that it is more likely to retain customers if it provides more pricing options. BellSouth continues to offer



### Satellite Broadband Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
Starband (Starband)	\$69.99 plus equipment	38,000	38,000	0.00%
DirecPC (Hughes Network Services)	\$29.99 plus equipment or \$99.99 per month	178,000	178,000	0.00%
<b>TOTALS</b>		<b>216,000</b>	<b>216,000</b>	<b>0.00%</b>

premium rates in the \$40 to \$60 per month range, but its new tiered DSL pricing structure allow price-sensitive customers to drop down to a lower-cost service rather than disconnect from DSL and shift to another carrier.

### Adding Features to Cable Services

Comcast has launched 'The Fan,' a broadband-powered multimedia player for its high-speed customers. The media player features content from a variety of providers including entertainment, sports, games, and news information. The Fan video player uses Macromedia's Flash software, which analysts considered a surprising slap at RealNetworks' RealOne and Apple Computer's QuickTime — and especially at Microsoft's Windows Media Player; Microsoft has invested billions of dollars in Comcast and its ventures over recent years.

Time Warner Cable's RoadRunner high-speed-data service is offering Computer Associates International Inc.'s anti-virus and firewall software to its subscribers. The deal allows RoadRunner subscribers to install CA's "eTrust EZ Armor" antivirus and firewall desktop-security suite free-of-charge. The software normally retails for \$49.95.

### Speeding Up DSL Competition

BellSouth is adding a 3 Mbps premium speed tier to its current FastAccess (1.5 Mbps) and FastAccess Lite (256 Kbps) DSL offerings. The company, which vows to step up its marketing efforts, expects to reach 2.2 million DSL customers and generate \$1 billion in DSL revenue in 2004, according to Bill Smith, BellSouth's chief technology officer. Smith also suggested, in a speech to a Wall Street group, that BellSouth may also add a 5 Mbps service to about half the company's customer base using existing ADSL technology.

In addition to the different tiered DSL services, BellSouth is testing a bandwidth-boosting service for its lower-speed customers. When using a paid BellSouth content service such as its movie-on-demand service provided by MovieLink, a DSL line would use the entire capacity of the copper loop for the duration of the download, effectively adding a "turbo" button to every customer's DSL service, Smith said.

Recognizing that broadband customers are quickly installing home networks, EarthLink has launched a promotion that will underwrite distribution of Linksys wired and wireless

home networking products to its customers. During the limited campaign, EarthLink is giving a Linksys Wireless-B router (priced at up to \$79.95) to customers who sign up for EarthLink Home Networking service. EarthLink Home Networking customers can also purchase the Linksys Wireless-B Game adapter for \$79.95 that allows Xbox, GameCube, or PlayStation game console users to connect to the Internet for online game playing.

SBC Communications, Inc., has expanded its marketing of Yahoo!-branded DSL service through retail alliances in its 13-state operating region. More than 2,000 stores in chains such as Best Buy and RadioShack, as well as Cingular Wireless and Gateway stores will sell the SBC/Yahoo! service, which has also been available since last year at Staples and Micro Center stores through an agreement with GetConnected. The service is also marketed through Sam's Club, OfficeMax, BJ's Wholesale Club, Menards, Kmart, and Super Kmart through an agreement with Wireless Retail.

Covad Communications Group, Inc., is expanding its nationwide DSL coverage area and customer reach as part of an overall growth agenda, which also includes T1 and frame access. The recovering broadband carrier says it will complete the installation of new broadband equipment in approximately 200 central offices nationwide by mid-2004, increasing its nationwide broadband network to more than 2,000 central offices. Covad's nationwide network currently covers more than 45 million U.S. homes and business in 96 of the top metro areas.

## SkyWay USA Joins Satellite Broadband Lineup

The satellite ISPs maintain their tiny share of the broadband market, but the category continues to prepare for structural changes. Although StarBand has emerged from its bankruptcy, it does not indicate any growth during the quarter — and indeed its customer level has remained relatively static for more than a year.

The fate of DirecPC is also in question as its parent company Hughes Network Systems awaits several momentous developments. HNS was included in the package when Rupert Murdoch's News Corp. acquired Hughes Communications for its DirecTV satellite broadcasting service. Most analysts expect HNS to be spun off — but no one is hazarding a guess about where it will go. Meanwhile, HNS' next-generation satellite — and the SpaceWay two-way data service it will offer — has been delayed again; it is now scheduled to begin service during the third quarter of 2004. Offering higher-speed Internet access, SpaceWay has been HNS' expected savior for the past five years. But the question now looms: who will actually own and operate the service?

Meanwhile, a new marketer has entered the satellite field. SkyWay USA is a packager that allows satellite retailers to offer dial-up Internet services and satellite broadband in rural markets, where cable modem and DSL services are often not available. The SkyWay USA platform, which uses Digital Video Broadcast (DVB) MPEG-2 technology, will debut by March, promising a 400 Kbps service. Transmissions will be carried via a SES Astra satellite. The company's initial offering will include a

computer system loaded with the company's broadband access software. Hardware cost is expected to be \$99, with total installation and activation fees adding up to about \$249. SkyWay USA cites its \$49.95 monthly fees as \$10 to \$20 less than DirecPC or StarBand. SkyWay USA's residential program is offered to satellite dealers exclusively through Saturn Distributing.

### Other Researchers with Similar Findings

Cox Communications CEO James Robbins last year characterized the Internet numbers game (in response to a question from *TR's Online Census*) as a world of "dueling data." Hence a variety of independent research continues to find slightly varied tallies in the online world. Other research probes more deeply into the online customer.

- Knowledge Networks/SRI's "Home Technology Monitor" identified that broadband has "become standard equipment in the wealthiest online homes." The study found that broadband access in online homes earning \$75,000 or more per year reached the 49 percent penetration level by autumn 2003. The study also found that upscale households are 50 percent more likely to actively shop online than lower income families (including dial-up users).
- Leichtman Research Group, Inc., came up with total broadband customer base almost identical to the *TR's Online Census*: 24.6 million with 60 percent in the cable modem sector for year-end 2003. LRG noted that the 20 largest cable and DSL providers reach nearly 98 percent of U.S. high-speed customers. It also identified that DSL providers' recent

### Just Beyond U.S. Borders

Although *TR's Online Census* does not include Canadian or other non-U.S. operations, it is worth noting that value-added content suppliers are latching on to such ventures.

Rogers Cable, Canada's largest cable operator, has allied with Yahoo! Inc. in a multi-year agreement that will bundle Yahoo's broadband-oriented content into the high-speed cable service. Yahoo will also provide Rogers "Hi-Speed Internet" subscribers with enhanced e-mail services without requiring a change to their current e-mail address.

The service will be available across Rogers's broadband network, which reaches consumers in Ontario, New Brunswick, and Newfoundland. In addition, Rogers AT&T Wireless and Yahoo intend to expand their existing agreement to provide Rogers AT&T Wireless customers with mobile extensions of Yahoo communication and information services.

price cuts attracted about 45 percent of all new high-speed customers during the fourth quarter of 2004 — the best-ever share of new sign-ups (and slightly higher than the steady 40 percent market share for the DSL sector's installed base). Nonetheless, LRG stopped short of suggesting that recent DSL surge will enable the telephone company providers to catch up with cable's lead.

- The Yankee Group's data for year-end 2003 also correspond to *TROC* data: about 14 million cable modems and 7 million DSL accounts; it combines satellite and other wireless providers into a group serving 400,000 users. Yankee, which claims that 70 percent of narrowband users eschew broadband because of the price, expects lower broadband fees to fuel revenue growth for online publishers and portals as traditional advertisers

embrace the Web. The research firm also predicts that broadband household usage will surpass dial-up by 2006, although it foresees only four million more Americans joining the online ranks by that date.

- ComScore Networks Inc., an online measurement firm, has found that broadband access has become the dominant format in a handful of metropolitan areas. According to ComScore research, San Diego has the greatest broadband reach with 52 percent of Internet users connecting via high-speed providers, followed by Boston (50 percent), New York (49 percent), Providence (47 percent), and Kansas City (46 percent). The San Francisco Bay Area and Los Angeles rank ninth and tenth with 44 percent, while the lowest broadband penetration was found in Albuquerque and Santa Fe, N.M., with 24 percent. Overall, ComScore calculated the national broadband level at 36 percent of online customers, somewhat higher than TR and other researchers identified. ComScore found that in the largest markets, cable maintains the largest share of broadband customers except in the San Francisco Bay area, where 60 percent of broadband subscribers use DSL.
- Jupiter Research's figures came in lower than most others. The firm acknowledged a year-end 2003 broadband customer base at only about 21.5 million, pointing out nonetheless that its tally represents a 25 percent broadband "surge" during the year. Jupiter supports the contention that increasing DSL adoption will push the price of high-speed access lower. According

to the Jupiter report, 47 percent of dial-up consumers said they would be "somewhat" or "very" likely to subscribe to broadband in the next year. But only 22 percent expressed interest if the price remains in the "pricey" \$45 monthly range.

- Meanwhile, the Pew Internet and American Life Project has determined that there's a slackening pace in the growth of the U.S. Internet audience. Pew found that the expansion has been slower during 2002 and 2003 than in previous years, but also identified that the 126 million online users (i.e. actual customers, not household accounts) are "becoming more attached" to their online connections. More than 66 million people go online on any given day, according to Pew. Nearly a third of users who access the Web from home have a high-speed connection, the study confirmed. The U.S. online population is split nearly evenly between men and women, while seniors and blacks are less likely to log on, Pew found.

### Government Broadband Initiatives

Statistical information affirms the online audience is solid — but its direction is malleable.

As broadband becomes a political vehicle as well as a business dynamo, policy wonks continue to raise questions about the role of broadband in the national agenda. Inevitably, such discussions point toward the greater broadband penetration in South Korea or Taiwan, where government-underwritten construction programs have pushed Internet access. Those densely populated nations also have the advantage of "building up"

— that is wiring massive multifamily dwelling units (such as high-rises), which is typically far cheaper than stringing connections to the single-family homes that are more typical in the U.S.

The United States ranks 11<sup>th</sup> world-wide in broadband use, according to a recent United Nations report. The report places the U.S. behind such places as South Korea, Hong Kong, and Iceland. The low government-subsidized pricing (in addition to the construction support) is credited with high-speed penetration in some countries, where broadband access costs the equivalent of \$27 per month, down from \$40 a year earlier. The European Union has set a goal of widespread broadband access in its 15 nations by 2005. South Korea's government is spending \$50 billion to extend broadband to businesses and homes.

In the U.S. similar federal initiatives seem unlikely, but several states in the U.S. are developing plans to underwrite — most likely in collaboration with private enterprise — broadband access to every home. Typically, the efforts are spurred by expectations that broadband access will trigger economic growth.

The most ambitious agenda seems to be the "Gigabit or Bust" project, managed by the Corporation for Education Network Initiatives in California (CENIC). Like other ventures, it is focused on higher education and academic programs. CENIC envisions networks that can deliver one gigabit per second broadband to all Californians by 2010 — at home, in schools, and to workplaces.

Michigan, which has lagged in broadband deployment, has created the Michigan Broadband Development Authority to spur creation of high-speed start-ups with low-interest loans.

It expects to lend as much as \$15 million in 2004 to attract broadband companies that target under-served markets. The first \$350,000 loan went to ISP Wireless in Alma, Mich., which sells wireless high-speed access.

Other states are joining the publicly funded effort to promote broadband access.

## 25 Year Benchmark

2004 marks the 25<sup>th</sup> year since *TR's Online Census* and its predecessor publications began regular tallies of the online audience. That dates back to an era when CompuServe had 5,000 customers (as it did in the first measurement) and its chief rival at the time, Source Telecomputing, had an almost identical tally. It was a time when publisher-owned online ventures, such as Dow-Jones News Retrieval and other long-defunct "ASCII" text services sought to reach a few thousand users in the years just before and during the birth of the personal computer.

It was a world of 1200-baud access (1.2 Kbps) — and often slower speeds, fraught with public policy battles about the role of telephone companies and their competitors (including nascent cable TV carriers) in delivering proprietary-technology data services.

The current penetration of online services (nearly 80 percent of U.S. homes), fueled by standardized Web browsers and easily accessible distribution tools, demonstrates what two-and-a-half decades of development can deliver. The latest concepts for state-supported broadband services and enhanced/bundled applications packages — not to mention creative pricing schemes — augur an era of even-livelier online progress. ■

100.000	200.000	300.000	400.000	500.000	600.000	700.000	800.000	900.000	1.000.000	1.100.000	1.200.000	1.300.000	1.400.000	1.500.000	1.600.000	1.700.000	1.800.000	1.900.000	2.000.000	2.100.000	2.200.000	2.300.000	2.400.000	2.500.000	2.600.000	2.700.000	2.800.000	2.900.000	3.000.000	3.100.000	3.200.000	3.300.000	3.400.000	3.500.000	3.600.000	3.700.000	3.800.000	3.900.000	4.000.000	4.100.000	4.200.000	4.300.000	4.400.000	4.500.000	4.600.000	4.700.000	4.800.000	4.900.000	5.000.000	5.100.000	5.200.000	5.300.000	5.400.000	5.500.000	5.600.000	5.700.000	5.800.000	5.900.000	6.000.000	6.100.000	6.200.000	6.300.000	6.400.000	6.500.000	6.600.000	6.700.000	6.800.000	6.900.000	7.000.000	7.100.000	7.200.000	7.300.000	7.400.000	7.500.000	7.600.000	7.700.000	7.800.000	7.900.000	8.000.000	8.100.000	8.200.000	8.300.000	8.400.000	8.500.000	8.600.000	8.700.000	8.800.000	8.900.000	9.000.000	9.100.000	9.200.000	9.300.000	9.400.000	9.500.000	9.600.000	9.700.000	9.800.000	9.900.000	10.000.000	10.100.000	10.200.000	10.300.000	10.400.000	10.500.000	10.600.000	10.700.000	10.800.000	10.900.000	11.000.000	11.100.000	11.200.000	11.300.000	11.400.000	11.500.000	11.600.000	11.700.000	11.800.000	11.900.000	12.000.000	12.100.000	12.200.000	12.300.000	12.400.000	12.500.000	12.600.000	12.700.000	12.800.000	12.900.000	13.000.000	13.100.000	13.200.000	13.300.000	13.400.000	13.500.000	13.600.000	13.700.000	13.800.000	13.900.000	14.000.000	14.100.000	14.200.000	14.300.000	14.400.000	14.500.000	14.600.000	14.700.000	14.800.000	14.900.000	15.000.000	15.100.000	15.200.000	15.300.000	15.400.000	15.500.000	15.600.000	15.700.000	15.800.000	15.900.000	16.000.000	16.100.000	16.200.000	16.300.000	16.400.000	16.500.000	16.600.000	16.700.000	16.800.000	16.900.000	17.000.000	17.100.000	17.200.000	17.300.000	17.400.000	17.500.000	17.600.000	17.700.000	17.800.000	17.900.000	18.000.000	18.100.000	18.200.000	18.300.000	18.400.000	18.500.000	18.600.000	18.700.000	18.800.000	18.900.000	19.000.000	19.100.000	19.200.000	19.300.000	19.400.000	19.500.000	19.600.000	19.700.000	19.800.000	19.900.000	20.000.000	20.100.000	20.200.000	20.300.000	20.400.000	20.500.000	20.600.000	20.700.000	20.800.000	20.900.000	21.000.000	21.100.000	21.200.000	21.300.000	21.400.000	21.500.000	21.600.000	21.700.000	21.800.000	21.900.000	22.000.000	22.100.000	22.200.000	22.300.000	22.400.000	22.500.000	22.600.000	22.700.000	22.800.000	22.900.000	23.000.000	23.100.000	23.200.000	23.300.000	23.400.000	23.500.000	23.600.000	23.700.000	23.800.000	23.900.000	24.000.000	24.100.000	24.200.000	24.300.000	24.400.000	24.500.000	24.600.000	24.700.000	24.800.000	24.900.000	25.000.000	25.100.000	25.200.000	25.300.000	25.400.000	25.500.000	25.600.000	25.700.000	25.800.000	25.900.000	26.000.000	26.100.000	26.200.000	26.300.000	26.400.000	26.500.000	26.600.000	26.700.000	26.800.000	26.900.000	27.000.000	27.100.000	27.200.000	27.300.000	27.400.000	27.500.000	27.600.000	27.700.000	27.800.000	27.900.000	28.000.000	28.100.000	28.200.000	28.300.000	28.400.000	28.500.000	28.600.000	28.700.000	28.800.000	28.900.000	29.000.000	29.100.000	29.200.000	29.300.000	29.400.000	29.500.000	29.600.000	29.700.000	29.800.000	29.900.000	30.000.000	30.100.000	30.200.000	30.300.000	30.400.000	30.500.000	30.600.000	30.700.000	30.800.000	30.900.000	31.000.000	31.100.000	31.200.000	31.300.000	31.400.000	31.500.000	31.600.000	31.700.000	31.800.000	31.900.000	32.000.000	32.100.000	32.200.000	32.300.000	32.400.000	32.500.000	32.600.000	32.700.000	32.800.000	32.900.000	33.000.000	33.100.000	33.200.000	33.300.000	33.400.000	33.500.000	33.600.000	33.700.000	33.800.000	33.900.000	34.000.000	34.100.000	34.200.000	34.300.000	34.400.000	34.500.000	34.600.000	34.700.000	34.800.000	34.900.000	35.000.000	35.100.000	35.200.000	35.300.000	35.400.000	35.500.000	35.600.000	35.700.000	35.800.000	35.900.000	36.000.000	36.100.000	36.200.000	36.300.000	36.400.000	36.500.000	36.600.000	36.700.000	36.800.000	36.900.000	37.000.000	37.100.000	37.200.000	37.300.000	37.400.000	37.500.000	37.600.000	37.700.000	37.800.000	37.900.000	38.000.000	38.100.000	38.200.000	38.300.000	38.400.000	38.500.000	38.600.000	38.700.000	38.800.000	38.900.000	39.000.000	39.100.000	39.200.000	39.300.000	39.400.000	39.500.000	39.600.000	39.700.000	39.800.000	39.900.000	40.000.000	40.100.000	40.200.000	40.300.000	40.400.000	40.500.000	40.600.000	40.700.000	40.800.000	40.900.000	41.000.000	41.100.000	41.200.000	41.300.000	41.400.000	41.500.000	41.600.000	41.700.000	41.800.000	41.900.000	42.000.000	42.100.000	42.200.000	42.300.000	42.400.000	42.500.000	42.600.000	42.700.000	42.800.000	42.900.000	43.000.000	43.100.000	43.200.000	43.300.000	43.400.000	43.500.000	43.600.000	43.700.000	43.800.000	43.900.000	44.000.000	44.100.000	44.200.000	44.300.000	44.400.000	44.500.000	44.600.000	44.700.000	44.800.000	44.900.000	45.000.000	45.100.000	45.200.000	45.300.000	45.400.000	45.500.000	45.600.000	45.700.000	45.800.000	45.900.000	46.000.000	46.100.000	46.200.000	46.300.000	46.400.000	46.500.000	46.600.000	46.700.000	46.800.000	46.900.000	47.000.000	47.100.000	47.200.000	47.300.000	47.400.000	47.500.000	47.600.000	47.700.000	47.800.000	47.900.000	48.000.000	48.100.000	48.200.000	48.300.000	48.400.000	48.500.000	48.600.000	48.700.000	48.800.000	48.900.000	49.000.000	49.100.000	49.200.000	49.300.000	49.400.000	49.500.000	49.600.000	49.700.000	49.800.000	49.900.000	50.000.000	50.100.000	50.200.000	50.300.000	50.400.000	50.500.000	50.600.000	50.700.000	50.800.000	50.900.000	51.000.000	51.100.000	51.200.000	51.300.000	51.400.000	51.500.000	51.600.000	51.700.000	51.800.000	51.900.000	52.000.000	52.100.000	52.200.000	52.300.000	52.400.000	52.500.000	52.600.000	52.700.000	52.800.000	52.900.000	53.000.000	53.100.000	53.200.000	53.300.000	53.400.000	53.500.000	53.600.000	53.700.000	53.800.000	53.900.000	54.000.000	54.100.000	54.200.000	54.300.000	54.400.000	54.500.000	54.600.000	54.700.000	54.800.000	54.900.000	55.000.000	55.100.000	55.200.000	55.300.000	55.400.000	55.500.000	55.600.000	55.700.000	55.800.000	55.900.000	56.000.000	56.100.000	56.200.000	56.300.000	56.400.000	56.500.000	56.600.000	56.700.000	56.800.000	56.900.000	57.000.000	57.100.000	57.200.000	57.300.000	57.400.000	57.500.000	57.600.000	57.700.000	57.800.000	57.900.000	58.000.000	58.100.000	58.200.000	58.300.000	58.400.000	58.500.000	58.600.000	58.700.000	58.800.000	58.900.000	59.000.000	59.100.000	59.200.000	59.300.000	59.400.000	59.500.000	59.600.000	59.700.000	59.800.000	59.900.000	60.000.000	60.100.000	60.200.000	60.300.000	60.400.000	60.500.000	60.600.000	60.700.000	60.800.000	60.900.000	61.000.000	61.100.000	61.200.000	61.300.000	61.400.000	61.500.000	61.600.000	61.700.000	61.800.000	61.900.000	62.000.000	62.100.000	62.200.000	62.300.000	62.400.000	62.500.000	62.600.000	62.700.000	62.800.000	62.900.000	63.000.000	63.100.000	63.200.000	63.300.000	63.400.000	63.500.000	63.600.000	63.700.000	63.800.000	63.900.000	64.000.000	64.100.000	64.200.000	64.300.000	64.400.000	64.500.000	64.600.000	64.700.000	64.800.000	64.900.000	65.000.000	65.100.000	65.200.000	65.300.000	65.400.000	65.500.000	65.600.000	65.700.000	65.800.000	65.900.000	66.000.000	66.100.000	66.200.000	66.300.000	66.400.000	66.500.000	66.600.000	66.700.000	66.800.000	66.900.000	67.000.000	67.100.000	67.200.000	67.300.000	67.400.000	67.500.000	67.600.000	67.700.000	67.800.000	67.900.000	68.000.000	68.100.000	68.200.000	68.300.000	68.400.000	68.500.000	68.600.000	68.700.000	68.800.000	68.900.000	69.000.000	69.100.000	69.200.000	69.300.000	69.400.000	69.500.000	69.600.000	69.700.000	69.800.000	69.900.000	70.000.000	70.100.000	70.200.000	70.300.000	70.400.000	70.500.000	70.600.000	70.700.000	70.800.000	70.900.000	71.000.000	71.100.000	71.200.000	71.300.000	71.400.000	71.500.000	71.600.000	71.700.000	71.800.000	71.900.000	72.000.000	72.100.000	72.200.000	72.300.000	72.400.000	72.500.000	72.600.000	72.700.000	72.800.000	72.900.000	73.000.000	73.100.000	73.200.000	73.300.000	73.400.000	73.500.000	73.600.000	73.700.000	73.800.000	73.900.000	74.000.000	74.100.000	74.200.000	74.300.000	74.400.000	74.500.000	74.600.000	74.700.000	74.800.000	74.900.000	75.000.000	75.100.000	75.200.000	75.300.000	75.400.000	75.500.000	75.600.000	75.700.000	75.800.000	75.900.000	76.000.000	76.100.000	76.200.000	76.300.000	76.400.000	76.500.000	76.600.000	76.700.000	76.800.000	76.900.000	77.000.000	77.100.000	77.200.000	77.300.000	77.400.000	77.500.000	77.600.000	77.700.000	77.800.000	77.900.000	78.000.000	78.100.000	78.200.000	78.300.000	78.400.000	78.500.000	78.600.000	78.700.000	78.800.000	78.900.000	79.000.000	79.100.000	79.200.000	79.300.000	79.400.000	79.500.000	79.600.000	79.700.000	79.800.000	79.900.000	80.000.000	80.100.000	80.200.000	80.300.000	80.400.000	80.500.000	80.600.000	80.700.000	80.800.000	80.900.000	81.000.000	81.100.000	81.200.000	81.300.000	81.400.000	81.500.000	81.600.000	81.700.000	81.800.000	81.900.000	82.000.000	82.100.000	82.200.000	82.300.000	82.400.000	82.500.000	82.600.000	82.700.000	82.800.000	82.900.000	83.000.000	83.100.000	83.200.000	83.300.000	
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## US BROADBAND HOUSEHOLDS

YE 31 DECEMBER	2000	2001	2002	2003E	2004E	2005E	2006E	2007E	2008E	2009E	2010E	2011E
US Households ('000)	105,465	106,657	107,866	109,092	110,337	111,600	112,882	114,183	115,503	116,842	118,202	119,582
Growth (%)	3.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%	1.2%
PC Penetration (%)	58%	60%	62%	64%	66%	66%	67%	67%	67%	67%	67%	67%
PC Households ('000)	61,170	63,994	66,877	69,819	71,719	73,658	75,631	76,502	77,387	78,284	79,195	80,120
Other Devices (%)	0%	0%	0%	0%	1%	2%	3%	4%	6%	8%	9%	10%
Other Devices ('000)	-	-	-	327	1,103	1,674	2,822	4,567	6,930	9,347	10,638	11,958
Total ('000)	61,170	63,994	66,877	70,146	72,822	75,330	78,453	81,070	84,317	87,632	89,834	92,078
Total US Households (%)	58%	60%	62%	64%	66%	68%	70%	71%	73%	75%	76%	77%
Online Penetration (%)	85%	88%	90%	91%	93%	94%	95%	95%	95%	95%	95%	95%
Online Households ('000)	51,994	56,315	60,189	63,833	67,725	70,810	74,530	77,016	80,101	83,250	85,342	87,475
% of Total Households	49.3%	52.8%	55.8%	58.5%	61.4%	63.5%	66.0%	67.5%	69.4%	71.3%	72.2%	73.2%
Broadband Penetration (%) - On Line	12%	21%	30%	42%	55%	66%	74%	81%	86%	88%	89%	89%
Broadband Penetration (%) - Total Households	6%	11%	17%	24%	34%	42%	49%	55%	60%	63%	64%	65%
Broadband Households ('000)	5,994	11,673	19,213	28,583	38,963	46,743	55,316	62,746	68,767	73,081	75,801	78,096
Cable	3,730	7,312	11,447	16,619	21,463	25,688	29,472	33,180	36,271	38,310	39,405	40,354
DSL	2,214	4,261	6,566	9,564	14,750	19,956	24,304	27,563	29,994	31,643	32,642	33,425
Other	50	100	200	400	750	1,100	1,540	2,002	2,503	3,128	3,754	4,317
Total	5,994	11,673	19,213	28,583	38,963	46,743	55,316	62,746	68,767	73,081	75,801	78,096
Composition (%)												
Cable	62.2%	62.6%	62.8%	62.5%	58.1%	55.0%	53.3%	52.9%	52.7%	52.4%	52.0%	51.7%
DSL	36.9%	36.5%	36.1%	36.0%	39.9%	42.7%	43.9%	43.9%	43.6%	43.3%	43.1%	42.8%
Other	0.8%	0.9%	1.1%	1.5%	2.0%	2.4%	2.8%	3.2%	3.6%	4.3%	5.0%	5.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Deutsche Bank Securities Inc. estimates and company information

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Nigel Coe, CFA 212-250-7808  
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Andrew Kieley, CFA 212-250-7817

**TAB E**





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ATTORNEYS AT LAW

June 25, 2004

EX PARTE – Via Electronic Filing

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: *Implementation of the Local Competition Provisions of the  
Telecommunications Act of 1996*, CC Docket No. 96-98;  
*Intercarrier Compensation for ISP-Bound Traffic*, CC Docket No. 99-68;  
*Level 3 Petition for Forbearance*, WC Docket No. 03-266;  
*IP-Enabled Services*, WC Docket No. 04-36

Dear Ms. Dortch:

On Thursday, June 24, 2004, Cindy Schonhaut, Director of Federal Regulatory Policy for Level 3 Communications LLC ("Level 3"), and Level 3's counsel, John T. Nakahata and Charles D. Breckinridge of Harris, Wiltshire & Grannis LLP, met with Christopher Libertelli, Senior Legal Advisor to Chairman Powell; William Maher, Chief of the Wireline Competition Bureau; Jane Jackson, Associate Chief of the Wireline Competition Bureau; Robert Tanner, Legal Counsel to the Wireline Competition Bureau; Margaret Dailey, Legal Counsel to the Wireline Competition Bureau; Tamara Preiss, Chief of the Pricing Policy Division; Steve Morris, Deputy Chief of the Pricing Policy Division; Jennifer McKee, Assistant Chief of the Pricing Policy Division; Victoria Schlesinger, Attorney Advisor in the Pricing Policy Division; and Rodger Woock, Chief of the Industry Analysis and Technology Division.

The participants in these meetings discussed the proceedings identified above. Level 3 argued that the Commission should reject contentions that traffic bound for Internet Service Providers falls outside of Section 251(b)(5) of the Communications Act of 1934. As set forth more fully in its *ex parte* filing dated June 23, 2004 (CC Docket Nos. 96-98 and 99-68), Level 3 explained that these contentions conflict with the language of the Act, with the Commission's and the courts' interpretations of the Act, and with the Commission's efforts to establish a uniform intercarrier compensation system. With respect to its forbearance petition and the *IP-Enabled Services* docket, Level 3 reiterated arguments presented in its petition, its written reply comments in support of its petition, and in its written comments in the *IP-Enabled Services* proceeding.

Ms. Marlene H. Dortch  
June 25, 2004  
Page 2 of 2

In the course of the meetings, Level 3 distributed sections of a report prepared by Bernstein Research Call. A copy of the distributed sections is attached to this letter.

In accordance with the Commission's rules, I am filing this letter electronically in the dockets identified above.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles D. Breckinridge", with a stylized flourish at the end.

Charles D. Breckinridge

cc Christopher Libertelli, Senior Legal Advisor to Chairman Powell  
William Maher, Chief of the Wireline Competition Bureau  
Jane Jackson, Associate Chief of the Wireline Competition Bureau  
Robert Tanner, Legal Counsel to the Wireline Competition Bureau  
Margaret Dailey, Legal Counsel to the Wireline Competition Bureau  
Tamara Preiss, Chief of the Pricing Policy Division  
Steve Morris, Deputy Chief of the Pricing Policy Division  
Jennifer McKee, Assistant Chief of the Pricing Policy Division  
Victoria Schlesinger, Attorney Advisor in the Pricing Policy Division  
Rodger Woock, Chief of the Industry Analysis and Technology Division



## DSL Economics I: Continued Broadband Adoption to Drive 22% DSL Revenue Growth Through 2008

Ticker	Rating	CUR	10/14/2003 Closing Price	Target Price	YTD Rel. Perf.	EPS			P/E			Yield
						2002A	2003E	2004E	2002A	2003E	2004E	
SBC	O	USD	21.40	30.00	-40.3%	2.24	1.64	1.53	9.6	13.0	14.0	5.3%
VZ	M	USD	31.50	38.00	-38.0%	3.05	2.57	2.31	10.3	12.3	13.6	4.9%
BLS	M	USD	23.59	29.00	-28.1%	2.09	2.04	1.95	11.3	11.6	12.1	3.9%
Q	M	USD	3.67	6.00	-45.9%	-0.40	-0.30	-0.13	NM	NM	NM	0.0%
SPX			1049.48			47.95	52.75	55.50	21.9	19.9	18.9	1.6%

O – Outperform, M – Market-Perform, U – Underperform

### Highlights

*This Research Call is the first in our series examining the economics of DSL from the RBOC perspective. This call sets up our current forecast for the consumer broadband market and DSL, specifically by outlining the subscriber and pricing assumptions underlying our industry models and RBOC forecasts.*

- The market for DSL services is estimated to grow 22% annually over the next five years off a 2003E base of \$2.5B. Underlying that outlook is a broadband subscriber growth forecast calling for 26% growth modestly offset by price decay averaging (5.6)%.
- We expect broadband penetration of total US households to improve from 15% in 2002 to 58% in 2008, driven by modest gains in online penetration of PC households, an improving price/performance ratio vis a vis dial-up, and internet content increasingly designed for broadband connections.
- Within the mix of on-line subscribers, DSL is expected to gain 19 percentage points of share, shifting a 17% / 7% / 76% subscriber share ratio for cable/DSL/Dial-up in 2002 to 46% / 27% / 25% by 2008E.
- We see current DSL monthly churn rates of nearly 5% – 200bp higher than cable modem rates – as temporary and driven half by poor customer targeting and post-sale follow-through and half by competitive churn. Over time, DSL churn rates will migrate toward cable modem levels of 3%, with improved customer targeting, provisioning and a better value proposition driving the gains.
- At \$2.5B, consumer DSL remains a small revenue stream in the context of the RBOCs' \$160B combined 2003E topline, accounting for little less than 2% of the total. However, over the next five years, DSL will drive greater than 15% of the RBOCs' topline growth.

### Investment Conclusion

While the consumer broadband market will continue to be an important facet of the RBOCs' strategies over the next five years, it is unlikely to offer sufficient growth to offset much of the compression expected elsewhere in the companies' core wireline business. We anticipate incremental share shifts in DSL's favor – magnified by improvements in churn – to be taken positively by the market, although recent price reductions and the drag from higher subscriber acquisition costs (due to higher gross adds) will mask much of the positive potential impact. While we are neutral on the group, we maintain that investors should



exercise caution in being naked the sector as the cyclical sensitivity of telecom revenues is generally underestimated and the RBOCs are paying dividends sufficient to justify the wait for a recovery. Within that context, we recommend SBC among the RBOCs for its statistically aberrant dividend yield (both absolute and relative to the S&P), for its positive exposure to the upcoming FCC wholesale pricing (TELRIC) debate, and for its greater level of DBS-Wireline bundle integration suggesting, perhaps, a longer wait before fiber-to-the-premise spending begins (though with the concurrent risk of a negative earnings surprise if the company is successful selling bundled services). We rate SBC Outperform with a \$30 DCF-based estimate of fair value. We rate Verizon, BellSouth and Qwest all Marketperform with \$38, \$29 and \$6 DCF-based estimates of fair value, respectively.

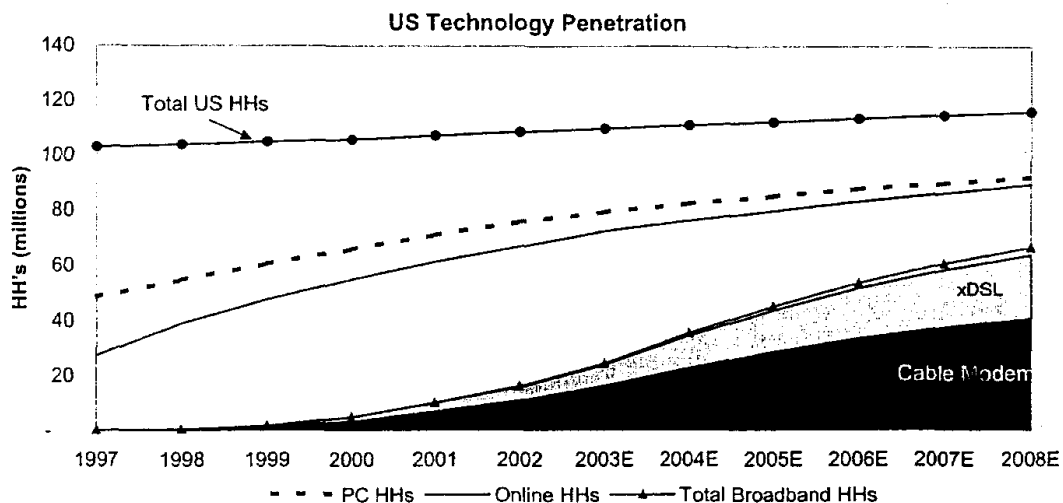
**Details****Current Online Market Forecast**

As noted in our joint *Research Call* with Bernstein's Cable and Media teams on July 15, 2003 ("Broadband Market Shaping Up to be Bigger than Generally Appreciated"), we view the opportunity for consumer DSL services to be larger, faster growing and more stable than commonly believed. Over the next five years, we estimate the total market for consumer broadband services will grow at an average annual rate of 18% off an estimated revenue base of \$8.6B for 2003, with DSL gaining significant share at the expense of dial-up. Driving this outlook are two dynamics: (1) accelerating penetration rates driven by recent RBOC DSL price reductions, and (2) a shift towards websites sporting bandwidth-demanding content (e.g., streaming music videos and movie trailers) making the narrowband experience ever-more unpleasant.

Relative to penetration, continued growth in PC households will drive a technological push towards on-line services which, in turn, will translate into increased demand for broadband services. **Exhibit 1** and **Exhibit 2** show our current forecasts for PC, online and broadband penetration of US households, as well as broadband subscribers by technology. As can be seen from the exhibits, 70% of households had PCs at year-end 2002 while 88% of those claimed to have Internet access. Within the online subset of households (62% of total households), nearly 25% were using broadband access connection at year-end 2002 with fully a third expected by year-end 2003 (i.e., DSL, Cable Modem, Satellite-DSL hybrid, etc.). As **Exhibit 3** shows, we expect broadband's penetration of online households to climb steadily over the next five years reaching 73% of online subscribers or nearly 66 million households by 2008. Of the available broadband options, we expect DSL's share of subscribers to increase by no less than 500bp off a 2003 market share of 30% as the value proposition of DSL vis a vis cable and dial-up is becoming more attractive and because the carriers' target marketing and provisioning is improving, cutting churn longer-term to levels approaching those of the cable companies at ~3%.

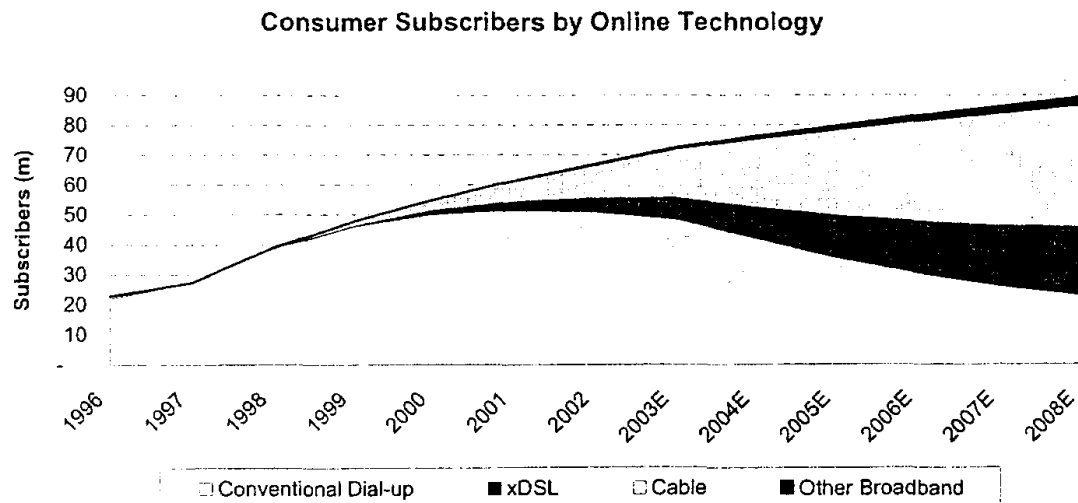


Exhibit 1  
Consumer Internet Market by Connection Type



Source: Company Reports, Nielsen and Bernstein Estimates

Exhibit 2  
Consumer Online Connections by Type



Source: Company Reports, Nielsen and Bernstein Estimates

## Broadband Update: DSL Share Reaches 40% of Net Adds in 4Q; Overall Growth Remains Robust

Stock	4/7 Price	SCB Rating	YTD Rel. Perf.	52-Week Range	EPS			P/E		Current Yield
					2003	2004E	2005E	2004E	2005E	
BLS	\$26	M	(5)%	\$21 - \$31	\$2.07	\$2.08	\$1.89	12.5x	13.8x	31.6%
SBC	24	M	(6)	19 - 27	1.55	1.43	1.28	16.8	18.8	4.9
VZ	37	M	6	31 - 41	2.62	2.36	2.31	15.7	16.0	4.1
Q	4	O	(3)	3 - 5	(0.38)	(0.35)	(0.03)	nm	nm	-
CMCSA	29	O	(13)	27 - 36	(0.04)	0.45	0.75	64.4	38.6	-
COX	31	O	(11)	25 - 34	(0.22)	0.37	0.54	83.8	57.4	-
CVC	22	M	(6)	15 - 24	(1.04)	(1.30)	(1.18)	nm	nm	-

### Overview

DSL net subscriber additions share versus cable reached 39.7% in the fourth quarter, reflecting renewed RBOC emphasis on marketing and promotion of DSL services, improvements in customer quality of service and expanded availability. We expect cable's share of broadband subscribers to fall from 67% at the end of 2003 to just under 60% in 2008, while DSL's share grows from 30% to 33%.

The consumer broadband market grew by 43% in 2003, adding seven million subscribers to bring total broadband households to 24 million. Erosion of the dial-up market continues at a rapid pace. The four largest dial-up ISPs lost a total of 900,000 narrowband subscribers during the fourth quarter, and 4.6 million subscribers for the year.

We expect continued strong growth in 2004, with the market growing by over nine million subscribers. We forecast that consumer broadband subscribers will grow at an average annual rate of 22% over the next five years, from a 2003 base of 24 million to 65 million in 2008.

We expect continued erosion of pricing for both cable and DSL, with annual ARPU declines of 5% and 8%, respectively, as bundling, promotion and tiering all contribute to lower price realization.

While we expect DSL to continue gaining share of net adds versus cable, consumer broadband is unlikely to offer sufficient upside to offset much of the compression expected elsewhere in the RBOCs' core wireline business. We remain neutral on the telecom group.

Broadband growth remains a key underpinning of continued cable revenue growth. We continue to recommend investors overweight the cable group.

### Online Market Forecast

With full-year 2003 results now reported for the large broadband service providers, we have revisited our broadband subscriber penetration estimates and net add forecasts. As predicted in our last overall market forecast, *Weekly Note* July 18, 2003, "Broadband Market Bigger Than Expected," the market has sustained stronger-than-consensus growth, finishing the year at 24.1 million subscribers. As forecast, DSL has gained market share over the period on the back of more aggressive pricing and faster additions to availability. We continue to view the opportunity for consumer cable modem and DSL services to be larger, faster growing and more stable than commonly believed.

Over the next five years, we estimate the total market of broadband services subscribers will grow at an average annual rate of 22% off a base of 24.6 million in 2003, with both DSL and cable gaining significant share at the expense of dial-up (see Exhibit 1). Driving this outlook are two dynamics: (1) continued strong growth in penetration rates as the RBOCs and cable more effectively market and deliver on the value proposition of DSL and cable modem service; and (2) a shift towards Web sites sporting bandwidth-demanding content making the narrowband experience ever more unpleasant. The RBOCs will enjoy faster growth, benefiting from a smaller base, as well as continued increases to market share.

Of the available broadband options, we expect DSL's share of the installed base of broadband subscribers to increase from 30% to 33% in 2008 as the value proposition of DSL versus cable and dial-up

**Exhibit 1 Consumer Internet Access Technology: Top-Down Forecast**

(Million Households)	2002	2003	2004E	2005E	2006E	2007E	2008E
<b>Online Technology — Households</b>							
Conventional Dial-Up	50.2	48.5	43.0	37.2	32.0	27.6	24.3
xDSL	5.0	7.3	10.6	14.0	17.0	19.6	21.7
Cable	11.5	16.2	21.9	27.2	31.9	35.8	38.9
Other Broadband Online	0.3	0.6	1.0	1.4	2.4	3.4	4.6
<b>Total Online Households</b>	<b>67.0</b>	<b>72.6</b>	<b>76.4</b>	<b>79.8</b>	<b>83.3</b>	<b>86.3</b>	<b>89.5</b>
<b>Memo: Broadband Households</b>	<b>16.8</b>	<b>24.1</b>	<b>33.4</b>	<b>42.6</b>	<b>51.3</b>	<b>58.8</b>	<b>65.2</b>
<b>Online Technology — Share</b>							
Conventional Dial-Up	74.9%	66.8%	56.2%	46.6%	38.4%	31.9%	27.1%
xDSL	7.4	10.1	13.9	17.6	20.5	22.7	24.3
Cable	17.2	22.3	28.6	34.1	38.3	41.4	43.5
Other Broadband Online	0.4	0.8	1.3	1.8	2.9	3.9	5.1
<b>Memo: Total Broadband</b>	<b>25.1</b>	<b>33.2</b>	<b>43.8</b>	<b>53.4</b>	<b>61.6</b>	<b>68.1</b>	<b>72.9</b>

Source: Nielsen Research, corporate reports and Bernstein estimates.

improves, and the RBOCs continue to focus on service improvements and churn reduction.

**DSL Continues to Grow Market Share vs. Cable**

Aggregate fourth-quarter net additions for the RBOCs grew at over 42.1% year-over-year, representing an acceleration from the 31% seen in the third quarter of 2003. By contrast, cable net additions were actually down slightly (3.1)% from the year-ago period, after notching year-over-year growth of nearly 8.5% in the third quarter. Although DSL continues to lag cable in absolute number of additions, DSL's market-share gains represent a clear trend toward convergence of market share, as forecast in our July report.

DSL's share gains reflect four factors:

- A modest narrowing of cable's *gross* addition lead, based on DSL's more aggressive pricing and narrowing availability disadvantage;
- Falling DSL churn rates, as RBOC installation and service levels improve (resulting in higher net additions as fewer customers are lost to churn);
- The law of large numbers, as cable modem churn rates apply to its larger installed base (requiring an *acceleration* of gross addition share in order to maintain net addition share); and
- RBOCs continued to expand DSL-addressable homes in 2003. Though most of these infrastructure upgrades are complete, Qwest plans to expand availability from 45% to 60% in 2004.

DSL's market share gain of *gross* additions — where the battle for new customers is actually fought — reflects its lower pricing as introduced in May 2003, coupled with a narrowing of cable's historical availability advantage. We estimate that

cable's share of gross additions has fallen from 64% to 59% over the past year. Share of *net* additions continues with the same trend, but is exacerbated by improving churn rates as DSL providers have focused on customer quality of service, marketing and promotion, and expanded availability. Cable's fourth-quarter market share of net additions fell to 60.2%, from 65.5% in the third quarter of 2003, with DSL's share growing by a like amount.

Since the pricing actions from Verizon and SBC in early 2003, prevailing *à la carte* DSL rates have remained at a \$5-\$10 per month discount to cable modem service (generally \$39.99 or \$34.99 versus typical cable rates of \$44.99 per month). Over the same period, promotional rates have settled at approximately \$29.99 per month for both cable and DSL, although the Bells' "promotional" bundled discounts tend to run indefinitely versus cable's, which roll off typically in three to six months. The most interesting change over the last several months was a rise in SBC's lead-offer price at the beginning of February, from \$26.95 to \$29.95, which seems to have temporarily alleviated concerns of a price war in high-speed Internet access, despite the fact that only a fraction of SBC net adds qualified for it.

DSL's share gains also reflect a shrinking "availability gap," as forecast in our July report. At the end of the fourth quarter of 2003, broadband service was available to an estimated 92.3% of cable subscribers nationally, up 540 bp from 86.9% at the time of the RBOC price cuts (after the first quarter). By contrast, DSL's availability expanded by 790 bp over the same period, from an access line-weighted 65.7% at the end of the first quarter to 73.6% today. (Investors should note that the denominators for DSL and cable-modem service are not perfectly comparable; RBOCs' available homes approximate 100% of households, less those which

**TAB F**



IN THE  
**Supreme Court of the United States**

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NATIONAL CABLE & TELECOMMUNICATIONS  
ASSOCIATION, *et al.*,

*Petitioners,*

-and-

FEDERAL COMMUNICATIONS COMMISSION  
and UNITED STATES,

*Petitioners,*

v.

BRAND X INTERNET SERVICES, *et al.*,

*Respondents.*

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ON PETITIONS FOR WRITS OF CERTIORARI TO THE  
UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

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**BRIEF OF THE VERIZON TELEPHONE COMPANIES,  
GTE.NET LLC d/b/a VERIZON INTERNET SOLUTIONS,  
and VERIZON INTERNET SERVICES INC.  
IN SUPPORT OF PETITIONERS**

---

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GTE.Net LLC d/b/a Verizon Internet Solutions,  
and Verizon Internet Services Inc.*

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Broadband allows businesses to increase productivity, resulting in substantial economic and job growth. See FCC Pet. 4. Consumers receive benefits in the form of more efficient service from the business sector, and also in the form of new applications that broadband enables, such as public safety services, telecommuting, education, telemedicine, and employee training.<sup>2</sup> Broadband also fuels the development of new and innovative services, including Internet-delivered video, audio, and voice communications. For example, broadband connections have made possible “voice-over-Internet-protocol” (or “VOIP”) services, which now compete with traditional telephone services. *Fourth Section 706 Report*, at 24. Next-generation networks, including the FTTP networks that Verizon is deploying, will allow video offerings in competition with the video programming services currently available from broadcast, cable television, and satellite operators.

It is not surprising then that over the last several years the popularity of broadband services has grown exponentially. Indeed, broadband Internet access recently surpassed dial-up for the first time as the primary mode of Internet access in this country. See Vauhini Vara, *High-Speed Surpasses Dial-Up as Top Home Web Access in U.S.*, Wall St. J., Aug. 18, 2004, at D4. As of April of 2004, fifty-five percent of adult Internet users had broadband at home or work. See *Fourth Section 706 Report*, at 32.



2. See *Fourth Section 706 Report*, at 24, 28, 47; *Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Ams. in a Reasonable and Timely Fashion*, 19 F.C.C.R. 5136, 5136-37 (2004); FCC, News Release, *Unleashing the Educ. Power of Broadband* (Sept. 8, 2004), at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-251908A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251908A1.pdf) (quoting FCC Chairman Michael K. Powell as stating that “[b]roadband is an essential tool to prepare today’s young people for tomorrow’s workforce and to facilitate lifelong learning for students of all ages”); Matthew D. Bennett, Alliance for Public Technology, *A Broadband World: The Promise of Advanced Servs.*, 2003, at <http://apt.org/confer/broadband-world.pdf>.